REMARKS/ARGUMENTS

This Amendment accompanies a Request for Continued Examination and addresses issues raised in the Official Action of August 8, 2007.

Reconsideration of this application is requested. Claims 6 and 8 will be the only claims pending in the application subsequent to entry of this Amendment.

Claim 6 has been amended by incorporating the features of claims 7 and 9.

The current Official Action cites for the first time and applies U.S. patent 5,478,602 and each of the prior art-based rejections, that is items 3, 10 and 17 (with associated sub-paragraphs) in the current Official Action. This newly cited reference fails to remedy the defects of the previous citations for reasons that are explained in the remarks that follow.

A problem to be solved by the present invention is to provide a rotogravure coated paper having good coating runnability, low density, high sheet gloss and print gloss, fewer missing dots and good gravure printability. To solve this problem, the present invention provides a process for preparing a rotogravure coated paper comprising coating a base paper at a coating speed of 1000 m/min or higher with a coating color containing an inorganic pigment having a volume-based distribution in which 65 % or more of the particles are in the particle diameter range of 0.4-4.2 μm and a hollow sphere organic pigment having a mean particle diameter of 0.1-0.6 μm, where the coating color contains 75 parts by weight or more of kaolin as the inorganic pigment per 100 parts by weight of the inorganic pigment and 2-30 parts by weight of the hollow sphere organic pigment per 100 parts by weight of the inorganic pigment.

In Citation 1 (JP 2002-88679: Kai), neither improvement in coating runnability nor increase in print gloss, which are the problems to be solved by the present invention, appears as a problem to be solved. Kai describes the use of kaolin (a pigment) having a volume-based distribution in which 65 % or more of particles that are in the particle diameter range of 0.4-4.2 μm, which is common to the present invention. Concerning an organic pigment, however, Kai merely states that an organic pigment is usable. Namely, use of a "hollow" organic pigment that is a small-sized hollow sphere organic pigment having a mean particle diameter ranging from 0.1-0.6 μm as specified in the present invention does not appear in this reference. Thus, Kai differs in constitution from the present invention. As described in prior art in specification of the present invention (*see* the paragraph bridging pages 5-6), when the inorganic pigment as

specified above was employed and the coating speed was elevated in Citation 1, problems occurred, resulting in poor coating runnability. The advantage of the present invention resides in the fact that these problems have been solved.

Accordingly, Citation 1 does not disclose that coating runnability can be improved as in the present invention. In Citation 1, moreover, print gloss is low compared with sheet gloss. Coating was conducted at a coating speed of 500 m/min in Example of Citation 1. In the Examples of the present invention, in contrast, good coating runnability, low density, high sheet gloss and print gloss and good gravure printability were established even at a coating speed of 800 or 1100 m/min.

As discussed above, the present invention is clearly different from Citation 1 in the problems to be solved, constitution and advantage.

The constitutional difference between Citation 1 and the present invention resides in use of a small-sized hollow sphere organic pigment having a mean particle diameter ranging from 0.1-0.6 μm. By combining an inorganic pigment in which 65 % or more of particles are in the particle diameter range of 0.4-4.2 μm with a specific small-sized hollow sphere organic pigment, good coating runnability (preferably at a coating speed of 600 m/min or higher, more preferably at a still high coating speed of 1000 m/min or higher) can be obtained and other properties can be also improved. In contrast thereto, use of a hollow organic pigment of 0.2-0.5 μm appears in Citation 2 (Matsumura; JP 2002-161494). However, Citation 2 neither describes nor suggests that coating runnability can be improved (in Citation 2, evaluation was made exclusively at a coating speed of 450 m/min). Similarly, Citation 2 neither describes nor suggests that sheet gloss and print gloss are elevated and dot qualities are improved. As a result, it is difficult to arrive at the present invention merely by combining Citation 1 with Citation 2.

Citation 3 (Ryu: US 2001-288690) discloses an invention relating not to a coated paper having a pigment-containing coating layer formed on a paper (a base paper), but to an uncoated paper having a pigment-free coating layer formed on a paper. Namely, Citation 3 is different from the present invention in paper type.

"A coating speed of 1219 m/min" appears in newly-added Citation 4 (Shay: US 5478602; column 14, line 40) which meets the requirement of coating speed of 1000 m/min or higher as specified in the present claim. However, it is merely the prior art of the present invention.

Citation 4 simply discloses that by adding an auxiliary (an alkali-swellable complex hydrophobe thickener) to an aqueous coating composition, lower blade pressures are obtained and the coating speed is increased at blade coating. Namely, Citation 4 discloses neither use of the specific hollow plastic pigment according to the present invention, nor addition of 75 parts by weight or more of kaolin per 100 parts by weight of the inorganic pigment as the inorganic pigment having a volume-based distribution in which 65 % or more of particles are in the particle diameter range of 0.4-4.2 μm.

In the present invention, on the contrary, the problem of poor coating runnability of a coating color -- containing 75 parts by weight or more of kaolin per 100 parts by weight of the inorganic pigment as the inorganic pigment having a volume-based distribution in which 65 % or more of particles are in the particle diameter range of 0.4-4.2 μm -- is solved by coating a base paper with a coating color containing 2-30 parts by weight of the above-mentioned hollow sphere organic pigment per 100 parts by weight of the inorganic pigment at a coating speed of 1000 m/min or higher. In short, Citation 4 neither describes nor suggests that the coating runnability of such a coating having poor coating runnability as described above can be improved by the addition of a specific hollow plastic pigment. Thus, a person skilled in the art could not have easily arrived at the present invention merely based on the combination of Citations 1 and 2 with Citation 4.

In the case of using a specific amount of an amorphous silicate base paper (an amorphous silicate base paper is liable to facilitate the penetration of the coating color at a low density) as in claim 8, a rotogravure coated paper having good coating runnability at a coating speed of 1000 m/min or thereabouts, low density, and high sheet gloss and print gloss can be provided by combining a coating color having kaolin in such a large amount as specified above (*see* Comparative Examples 1, 2 and 4), which is poor in coating runnability and so on, with a specific hollow plastic pigment (Example 1, etc.). Although amorphous silicate appears in Citation 3 with respect to claim 8, it is not the coated paper according to the present invention but an uncoated paper. Therefore, a person skilled in the art could not have easily carried out the present invention merely based on the combination of Citations 1 to 4.

The present invention and combination of Citations 1, 5, 3 and 4

Citation 5 (Sasaki: JP 11-279990) describes the use of 3-15% by weight of a hollow polymer and the particle diameter thereof is specified as 0.4-2.0 μm. Although it partly overlaps with the use of a small-sized hollow sphere organic pigment having a mean particle diameter of 0.1-0.6 μm according to the present invention, HP1055 (having a particle diameter of 1.0 μm), which is excluded from the range specified in the present invention, was used in the Example.

This reference states: "The viscosity, in particular, high shear viscosity, of a coating color using hollow polymer particles is liable to increase. When used together with an alkali thickening latex, in particular, the viscosity extremely increases to thereby frequently form streams in blade coating, which makes it impossible to prepare a rotogravure coated paper having no troubles in the coated paper face" *see* paragraph [0011]. This reference clearly states that coating runnability is deteriorated by adding a hollow polymer having a particle diameter of 0.4-2.0 μm (the coating speed in Example being 800 m/min, i.e., differing from 1000 m/min specified in the present invention). Although use of a hollow organic pigment having a particle diameter of 0.4-2.0 μm appears in Citation 5, it neither describes nor suggests that the coating runnability at 1000 m/min is improved by using the hollow organic pigment (evaluation being made only at a coating speed of 800 m/min in Citation 5). Further, it is neither described nor suggested that sheet gloss and print gloss are increased and dot qualities are improved thereby. As a result, it is difficult to arrive at the present invention merely by combining Citation 1 with Citation 5.

For the same reasoning as above, it is illogical to combine Citations 3 and 4. As a result, it is also illogical to combine Citations 1, 5, 3 and 4.

As to the combination of Citations 1, 6, 3 and 4, although use of a hollow plastic pigment appears in Citation 6 (Hayashi: JP 06-235195), nothing is disclosed about the particle size, moreover Citation 6 relates not to a rotogravure coated paper but to an offset coated paper. Coating runnability is neither described nor suggested. Thus, Citation 6 differs even more from the present invention than Citations 2 and 5 as discussed above. Therefore, one skilled in this art would not combine Citations 1, 6, 3 and 4.

Reconsideration and allowance are solicited. Should the examiner require further information, please contact the undersigned.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____
Arthur R. Crawford
Reg. No. 25,327

ARC:eaw
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100